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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/589,060	WANG, YE-KUI	
	Examiner	Art Unit	
	JONATHAN WILLIS	2441	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 September 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/11/2006,04/23/2007,08/10/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to Application 10/589,060 filed on 08/11/2006. Claims 1-23 are presented for examination.

Claim Objections

2. Claims 16-17 objected to because of the following informalities: The claims are written in incorrect dependent form and should be independent claims, as they are under a different statutory class. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 9 and 11" recites the limitation "all its prediction reference samples," there is no prior mention of "prediction reference samples," to interpret what "prediction reference samples," explicitly are. There is insufficient antecedent basis for this limitation in the claim.

5. Claim 11" recites the limitation "all concealed parts of said frame," there is no prior mention of "concealed parts," to interpret what "concealed parts," explicitly are. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 16-17 and 21 are rejected under 35 U.S.C. 101 because the claim is not embodied on a tangible medium, as the specification defines "a computer program product," as such:

> It is further proposed a computer program product comprising a computer program with instructions operable to cause a processor to perform the above-mentioned method steps **(Page 18, Paragraph 4).**

Claims 16-17 are drawn to a "computer program (product)." Thus, applying the broadest reasonable interpretation in light of the specification and taking into account the meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art (MPEP §2111), the claims are interpreted as being merely software.

To overcome this rejection, Examiner suggests changing "computer program product" to "non transitory computer readable storage medium ~~computer program product~~, thus excluding that portion of the scope covering transitory signals. The scope

of the disclosure given the state-of-the-art covers both transitory and non-transitory media, and this amendment would limit the claim to an eligible (non-transitory) embodiment.

Claim 21 is drawn to a protocol which is classified as a Data structure and is not claimed as embodied in a non-transitory computer-readable media are descriptive material per se and is not statutory because it is not capable of causing functional change in the computer.

To overcome this rejection, Examiner suggests changing “protocol for a streaming system, comprising" to "protocol comprising instructions stored on a non transitory computer readable storage medium operable to cause a processor in a streaming system to stream data using ~~system, comprising~~:, thus causing hardware in the system to perform streaming.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 5, 12, and 16-23 are rejected under 35 U.S.C. 102(e) as being anticipated by US 2005/0089043 A1 to Seckin et al. (hereinafter referred to as Seckin).

10. In regard to claim 1, **Seckin** teaches a method for reporting a streaming quality (*e.g. "at least one quality of experience (QoE) metric,"* **from Seckin in [0007] Line 3**), wherein at least one continuous media stream is streamed to a client (*see "Client,"* **in Fig. 1 [102]**, *e.g. "Audio specific description of metrics (corruptions) is monitored and reported every 20 seconds, for example, from the beginning until the end of the stream,"* **from Seckin in [0057] Lines 9-12**), and wherein said streaming is controlled by a protocol that is operated between said client and a server (*see "QoE Protocol,"* **in Fig. 1 [116]**, *e.g. "In a specific but non-limiting embodiment, the RTSP and SDP-based protocol extensions are used for transport and negotiation of the QoE metrics between the packet switched streaming service (PSS) client 102 and the PSS server 100... An example embodiment of the negotiation and transport processes of a QoE protocol 116,"* **from Seckin in [0028]**), comprising:

selecting at least one quality metric (*e.g. "at least one quality of experience (QoE) metric,"* **from Seckin in [0007] Line 3**) and a quality metrics class from a pre-defined set of at least two quality metrics classes (*e.g. "predefined QoS-class...Low, Medium, or High QoE Class,"* **from Seckin in [0152] [0154]**), and

reporting to said server the quality of said streaming based on said at least one selected quality metric and said selected quality metrics class (*e.g. "Here, the QOE*

Server Module 108 is organizing the metrics it received by mapping them to a Quality of Service class," **from Seckin in [0140] Lines 7-10**).

11. In regard to claim 5, **Seckin** teaches the method according to claim 1, wherein said at least one selected quality metric is a quality of experience metric that is at least partially based on a decision whether at least one frame of said at least one continuous media stream is a good frame (*e.g. "a set of QoE parameters (metrics), such as corruption duration, rebuffering duration, initial buffering duration, successive loss, frame rate deviation, and/or jitter duration,"* **from Seckin in [0021] Lines 1-3**).

12. In regard to claim 12, **Seckin** teaches the method according to claim 1, wherein said protocol is a real-time streaming protocol in combination with a session description protocol in the context of a packet-switched streaming service of a third generation mobile communications system server (*see "QoE Protocol,"* **in Fig. 1 [116]**, *e.g. "In a specific but non-limiting embodiment, the RTSP and SDP-based protocol extensions are used for transport and negotiation of the QoE metrics between the packet switched streaming service (PSS) client 102 and the PSS server 100... An example embodiment of the negotiation and transport processes of a QoE protocol 116,"* **from Seckin in [0028]**).

13. Claims 16-17 are corresponding computer readable medium claims (*e.g. "At least some of the QoE-related and other operations described above can be embodied*

in software or other machine-readable instruction 404 stored on one or more machine-readable medium 406," **from Seckin in [0166]**) of method claim 1; therefore, they are rejected under the same rationale.

14. Claim 18 is a corresponding system claim (*see "QoE Protocol,"* **in Fig. 1 [116]**, *e.g. "In a specific but non-limiting embodiment, the RTSP and SDP-based protocol extensions are used for transport and negotiation of the QoE metrics between the packet switched streaming service (PSS) client 102 and the PSS server 100... An example embodiment of the negotiation and transport processes of a QoE protocol 116,"* **from Seckin in [0028]**) of method claim 1; therefore, it is rejected under the same rationale.

15. Claims 19-20 are corresponding apparatus claims (*see "QoE Protocol,"* **in Fig. 1 [116]**, *e.g. "In a specific but non-limiting embodiment, the RTSP and SDP-based protocol extensions are used for transport and negotiation of the QoE metrics between the packet switched streaming service (PSS) client 102 and the PSS server 100...An example embodiment of the negotiation and transport processes of a QoE protocol 116,"* **from Seckin in [0028]**) of method claim 1; therefore, they are rejected under the same rationale.

16. Claim 21 is a corresponding system claim (*see "QoE Protocol,"* **in Fig. 1 [116]**, *e.g. "In a specific but non-limiting embodiment, the RTSP and SDP-based protocol*

extensions are used for transport and negotiation of the QoE metrics between the packet switched streaming service (PSS) client 102 and the PSS server 100... An example embodiment of the negotiation and transport processes of a QoE protocol 116," **from Seckin in [0028]**) of method claim 1; therefore, it is rejected under the same rationale.

16. Claim 22 is a corresponding apparatus claim (*see "System Monitoring,"* **in Fig. 1 [112]**, *e.g. "In a specific but non-limiting embodiment, the RTSP and SDP-based protocol extensions are used for transport and negotiation of the QoE metrics between the packet switched streaming service (PSS) client 102 and the PSS server 100... An example embodiment of the negotiation and transport processes of a QoE protocol 116,"* **from Seckin in [0028]**) of method claim 1; therefore, it is rejected under the same rationale.

17. Apparatus (*see "Server,"* **from Seckin in Fig. 1 [100]**), comprising:

a quality data processing instance (*see "QoE Server Module,"* **from Seckin in Fig. 1 [108]**) for evaluation and analysis for improving quality of a streaming application by enhancing a data rate of the application depending upon frequency of re-buffering events (e*.g. "The QoE Server Module 108 interacts with the DBA module 104: To impact decisions to increase bitrate based on statistical QoE result,"* **in [0124][0125] and** *e.g. "he "Metrics-Name Rebuffering_Duration" for the QoE-Feedback header,"* **from Seckin in [0091]**); and

a real-time streaming protocol entity for operating a protocol that controls a streaming of at least one continuous media stream (*see "QoE Protocol,"* **in Fig. 1 [116]**, *e.g. "In a specific but non-limiting embodiment, the RTSP and SDP-based protocol extensions are used for transport and negotiation of the QoE metrics between the packet switched streaming service (PSS) client 102 and the PSS server 100... An example embodiment of the negotiation and transport processes of a QoE protocol 116,"* **from Seckin in [0028]**), for selecting at least one quality metric (*e.g. "at least one quality of experience (QoE) metric,"* **from Seckin in [0007] Line 3**) and a quality metrics class from a pre-defined set of at least two quality metrics classes (*e.g. "predefined QoS-class...Low, Medium, or High QoE Class,"* **from Seckin in [0152] [0154]**), and for reporting to said server the quality of said streaming based on said at least one selected quality metric and said selected quality metrics class (*e.g. "Here, the QOE Server Module 108 is organizing the metrics it received by mapping them to a Quality of Service class,"* **from Seckin in [0140] Lines 7-10**).

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. Claims 2-4, 6-10, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seckin in view of US 2004/0139088 A1 to Mandato et al. (hereinafter referred to as Mandato).

20. In regard to claim 2, **Seckin** teaches the method according to claim 1, but **Seckin** does not explicitly teach wherein said selecting said quality metrics class comprises negotiating said quality metrics class between said client and said server as claimed.

However, **Mandato** discloses negotiating between the types of QoS classes to use in a stream between a server and client (*e.g. "pre-negotiation will focus on having peers agreeing on the types of QoS classes to use* to *with respect to the capabilities of each peer,"* **from Mandato in [0103] Lines 4-6**),

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to add the feature of negotiation between QoS classes between a client and server, as disclosed in **Mandato**, into the teachings of **Seckin**, since both references are directed to streaming protocols, hence, would be considered to be analogous based on their related fields of endeavor.

One would be motivated to do so as **Seckin** is already directed toward negotiating QoS between a client and server, and **Mandato** discloses the need for establishing an agreed quality based on device capabilities (*e.g. "establishing a session of a certain quality, based on capabilities agreement during the session establishment and sustained throughout the duration of the session. The problem can be described as*

a lack of expressiveness in three following areas: capabilities specification, resource reservation and media stream control," from **Mandato in [0061]**), and **Mandato** enhances **Seckin** by allowing capabilities of a device to be used in determining the level of service (*e.g. "to express the capabilities (i.e. supported media, CODEC algorithms, bandwidth, etc.) without a need in configuration,"* **from Mandato in [0064]**).

21. In regard to claim 3, **Seckin** teaches the method according to claim 1, and said protocol (*see "QoE Protocol,"* **from Seckin in Fig. 1 [116])** that has at least one protocol data unit containing quality metric fields (*see "Header,"* **from Seckin in table in [0037]**), but

Seckin does not define a quality metrics class field within at least one protocol data unit, wherein said quality metrics class field is capable of identifying each quality metrics class of said pre-defined set of at least two quality metrics classes as claimed.

However, **Mandato** teaches negotiation a stream between a client and a server using QoS class (*e.g. "pre-negotiation will focus on having peers agreeing on the types of QoS classes to use* to *with respect to the capabilities of each peer,"* **from Mandato in [0103] Lines 4-6**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to add the feature of using QoS classes when negotiating a stream quality between a client and server, as disclosed in **Mandato**, into the teachings of **Seckin**, since both references are directed to streaming protocols, hence, would be considered to be analogous based on their related fields of endeavor.

One would be motivated to do so as the **Seckin** is directed to using the 3GPP (PSS) Quality of Metric Header which is built around the RTSP protocol as is the present invention, and Mandato is directed to the RTSP protocol, and one of ordinary skill in the art would recognize that using **Mandato's** classes in negotiation could be implemented in **Seckin's** negotiation data header's, and **Mandato** enhances **Seckin** by allowing capabilities of a device to be used in determining the level of service (*e.g. "to express the capabilities (i.e. supported media, CODEC algorithms, bandwidth, etc.) without a need in configuration,"* **from Mandato in [0064]**).

22. In regard to claim 4, **Seckin-Mandato** teaches the method according to claim 3, wherein said quality metrics class field is located in a header section of said at least one protocol data unit (*see "Header,"* **from Seckin in table in [0037]**, *e.g. "pre-negotiation will focus on having peers agreeing on the types of QoS classes to use* to *with respect to the capabilities of each peer,"* **from Mandato in [0103] Lines 4-6**).

23. In regard to claim 6, **Seckin-Mandato** teaches the method according to claim 5, wherein each quality metrics class in said pre-defined set of at least two quality metrics classes defines a different set of rules (*see policies as rules associated with contract used in negotiation of QoS Contracts*, *e.g. "peers negotiate QoS Contracts on a per stream basis at stream establishment time, based on the pre-negotiated vocabulary established during step,"* **in [0096] Lines 1-4 and** *e.g. "QoS Contract Agreement between a service user and a given service provider, specifying QoS requirements and*

constraints, as well as the policies required to keep track about QoS during all phases of said service," **from Mandato in table in [0002]**) on how to decide whether a frame of said at least one continuous media stream is a good frame (*e.g. "one peer might want to negotiate frame-rate and frame-size, whereas other peers may want to negotiate frame-rate only,"* **from Mandato in [00127] Lines 12-14 and** *e.g. "a set of QoE parameters (metrics), such as corruption duration, rebuffering duration, initial buffering duration, successive loss, frame rate deviation, and/or jitter duration,"* **from Seckin in [0021] Lines 1-3**).

24. In regard to claim 7, **Seckin-Mandato** teaches the method according to claim 6, wherein said set of rules defined by at least one of said quality metrics classes comprises: deciding an earlier of a completely received I-frame of said at least one continuous media stream or an N-th completely received frame of said at least one continuous media stream after a last frame error or loss to be a good frame, wherein then is an integer that is either signaled or defaults to (infinity) in case of a video frame or 1 in case of an audio frame, and deciding a frame of said at least one continuous media stream following a good frame to be a good frame, if said frame is completely received, and said frame and all subsequent frames until the next good frame to be corrupted, otherwise (*e.g. "In the absence of information from the codec layer and if N is not signalled, then M defaults to (infinity) (for video) or to one frame duration (for audio), or the end of the reporting period (whichever is sooner),"* **from Seckin in [0082]**).

25.. In regard to claim 8, **Seckin-Mandato** teaches the method according to claim 6, wherein said set of rules defined by at least one of said quality metric classes (*see policies as rules associated with contract used in negotiation of QoS Contracts, e.g. "peers negotiate QoS Contracts on a per stream basis at stream establishment time, based on the pre-negotiated vocabulary established during step,"* **from Mandato in [0096] Lines 1-4)** comprises:

deciding a coded frame of said at least one continuous media stream to be a good frame according to an error tracking algorithm (*see inherent rules associated with detecting data corruption, e.g. "a set of QoE parameters (metrics), such as corruption duration, rebuffering duration, initial buffering duration, successive loss, frame rate deviation, and/or jitter duration,"* **from Seckin in [0021] Lines 1-3**).

26. In regard to claim 9, **Seckin-Mandato** teaches the method according to claim 8, wherein said set of rules defined by at least one of said quality metrics classes (*see policies as rules associated with contract used in negotiation of QoS Contracts, e.g. "peers negotiate QoS Contracts on a per stream basis at stream establishment time, based on the pre-negotiated vocabulary established during step,"* **from Mandato in [0096] Lines 1-4)** comprises:

deciding an intra-coded frame of said at least one continuous media stream to be a good frame, if it is completely received at said client, and to be a corrupted frame otherwise, or deciding a predictively coded frame of said at least one continuous media stream to be a good frame, if it is completely received at said client and if all its

prediction reference samples of said predictively coded frame belong to good frames, and to be a corrupted frame otherwise (*see frame as considered good when it is received and subsequent relate frames are received and considered to be good, e.g. "Corruption duration, M, is the time period from the NPT time of the last good frame before the corruption, to the NPT time of the first subsequent good frame or the end of the reporting period (whichever is sooner). A corrupted frame may either be an entirely lost frame, or a media frame that has quality degradation and the decoded frame is not the same as in error-free decoding. A good frame is a "completely received" frame X that,"* **from Seckin in [0074]**).

27. In regard to claim 10, **Seckin-Mandato** teaches the method according to claim 6, wherein said set of rules defined by at least one of said quality metrics classes (*see policies as rules associated with contract used in negotiation of QoS Contracts, e.g. "peers negotiate QoS Contracts on a per stream basis at stream establishment time, based on the pre-negotiated vocabulary established during step,"* **from Mandato in [0096] Lines 1-4)** comprises:

deciding a coded frame of said at least one continuous media stream to be a good frame according to a decoding quality evaluation algorithm (*e.g. "The session level QoE metrics description (Initial buffering duration and rebufferings) are monitored and reported once at the end of the session. Also, video-specific description of metrics (corruptions and decoded bytes) are monitored and reported every 15 seconds from the beginning of the stream until the time 40 s,"* **from Seckin in [0057] Lines 5-8**)

28. In regard to claim 13, **Seckin** teaches the method according to claim 12, wherein said session description protocol comprises at least one session description protocol attribute (*e.g. "SDP that contains QoE-Metrics attribute,"* **from Seckin in [0029] Lines 4-5**) that defines at least one quality metrics field, (*see "Header,"* **from Seckin in table in [0037]**), but

Seckin does not define a quality metrics class field within at least one protocol data unit, wherein said quality metrics class field is capable of identifying each quality metrics class of said pre-defined set of at least two quality metrics classes as claimed.

However, **Mandato** teaches negotiation a stream between a client and a server using QoS class (*e.g. "pre-negotiation will focus on having peers agreeing on the types of QoS classes to use* to *with respect to the capabilities of each peer,"* **from Mandato in [0103] Lines 4-6**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to combine **Seckin** with **Mandato** for reasoning set forth above in claim 3.

29. In regard to claim 14, **Seckin-Mandato** teaches the method according to claim 13, wherein said real-time streaming protocol is used to negotiate a quality metrics class between said client and said server (*e.g. "pre-negotiation will focus on having peers agreeing on the types of QoS classes to use* to *with respect to the capabilities of each peer,"* **in [0103] Lines 4-6 and** *e.g. "This type of services is typically managed by using*

RTSP protocol," **from Mandato in [0189] Lines 1-2**) at least partially based on said session description protocol attribute (e.*g. "QoS General term for identifying set of QoS parameters,"* **from Mandato in table in [0002] and** *e.g. "SDP that contains QoE-Metrics attribute,"* **from Seckin in [0029] Lines 4-5**).

30. In regard to claim 15, **Seckin-Mandato** teaches the method according to claim 14, wherein said real-time streaming protocol uses a DESCRIBE method for said negotiation (*e.g. " that the RTSP process is initiated by the receivers by requesting the sender to describe a given media (e.g. a video stream) through the RTSP DESCRIBE method,"* **from Mandato in [0189] Lines 5-8**).

31. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seckin-Mandato in view of NPL "The Error Concealment Feature in the H.26L Test Model" 2002 to Wang et al. (hereinafter referred to as Wang).

32. In regard to claim 11, **Seckin-Mandato** teaches the method according to claim 10, wherein said set of rules defined by at least one of said quality metrics classes (*see policies as rules associated with contract used in negotiation of QoS Contracts, e.g. "peers negotiate QoS Contracts on a per stream basis at stream establishment time, based on the pre-negotiated vocabulary established during step,"* **from Mandato in [0096] Lines 1-4)** comprises:

deciding an intra-coded frame of said at least one continuous media stream to be a good frame, if it is completely received at said client, and to be a corrupted frame otherwise, or deciding a predictively coded frame of said at least one continuous media stream to be a good frame, if it is completely received at said client and all prediction reference samples of said predictively coded frame belong to good frames, or if at least a part of said frame is completely received, all prediction reference samples of said completely received parts of said frame belong to good frames(*see frame as considered good when it is received and subsequent relate frames are received and considered to be good, e.g. "Corruption duration, M, is the time period from the NPT time of the last good frame before the corruption, to the NPT time of the first subsequent good frame or the end of the reporting period (whichever is sooner). A corrupted frame may either be an entirely lost frame, or a media frame that has quality degradation and the decoded frame is not the same as in error-free decoding. A good frame is a "completely received" frame X that,"* **from Seckin in [0074]**), but

Seckin-Mandato do not teach that all concealed parts of said frame are considered as good, wherein concealed parts of said frame are obtained by applying an error concealment algorithm to lost or erroneous parts of a decoded version of said frame, and wherein said concealed parts are considered as good if an average boundary difference between said concealed parts and surrounding completely received and decoded parts of said frame is below a threshold.

However, **Wang** teaches using an error concealment algorithm to classify frames as good when they are received with intra frame corrupted Macro Blocks when the total

average Motion Vector is less than a preset threshold (*e.g. "If the average MV is smaller than a pre-defined threshold (currently % pixels for each MV component), all lost slices are concealed by copying from the spatially corresponding positions in the reference frame. Otherwise, motion-compensated error concealment is used, and the MVs of the lost MBs are predicted as described in the following paragraphs,"* **from Wang in Sect. 3.2 [P2]**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to add the feature of classifying frames as good when an average of frame blocks are considered to be below a threshold, as disclosed in **Wang**, into the teachings of **Seckin-Mandato**, since both references are directed to streaming media packets, hence, would be considered to be analogous based on their related fields of endeavor.

One would be motivated to do so as **Seckin-Mandato** is already concerned with the determination of whether a frame is considered good or not *(e.g. "Corruption duration, M, is the time period from the NPT time of the last good frame before the corruption, to the NPT time of the first subsequent good frame or the end of the reporting period (whichever is sooner). A corrupted frame may either be an entirely lost frame, or a media frame that has quality degradation and the decoded frame is not the same as in error-free decoding. A good frame is a "completely received" frame X that,"* **from Seckin in [0074]**) and **Wang** enhances **Seckin-Mandato** by increasing the number of frames considered to be "good" by providing an error threshold to allow

frames with minimal data corruption in digital media streams (e.*g. "more flexible network adaptation, and enhanced error robustness,"* **from Wang in Section 1 P[1]**).

Conclusion

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7,738,390 B2 to Rey et al.

US 6,643,496 B1 to Shimoyama et al.

US 2003/0221014 A1 to Kosiba et al.

US 2004/0136327 A1 to Sitaraman et al.

34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN WILLIS whose telephone number is (571)270-7467. The examiner can normally be reached on 8:00 A.M. - 6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571)272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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